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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/522,392

10/31/2005

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EXAMINER

JACOBSON, MICHELE LYNN

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

02/13/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/522,392	<b>Applicant(s)</b> MATSUOKA ET AL.	
	<b>Examiner</b> MICHELE JACOBSON	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 13-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/24/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of group I claims 1-12 in the reply filed on 11/26/08 is acknowledged. The traversal is on the ground(s) that "since the subject matter of claims 1-26 is sufficiently related that a thorough and complete search for the subject matter of the elected claims would necessarily encompass a thorough and complete search for the subject matter of the nonelected claims" examination of the entire application could be made without serious burden. This is not found persuasive because since the pending claims were filed under the provisions of the Patent Cooperation Treaty it is necessary for applicant to refute the examiner's assertion that there is a lack of unity of invention between the inventions identified in the previous restriction requirement. Applicant's arguments are directed towards standards applied for United States restriction practice that are different from those applied for cases filed under the provisions of the Patent Cooperation Treaty. Additionally, applicant has generically asserted that "search and examination of the entire application could be made without serious burden" but has failed to present any specific arguments demonstrating that the inventions claimed do not lack unity to support this assertion. Applicant's arguments are therefore not found persuasive.

2. Claims 13-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11/26/08.

3. The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 1 and 3 recite limitations involving the cutting step being performed when at least one of the resin layers of the multi-layer structure or the resin material constituting the multilayer structure is in a fused state respectively. It is unclear from applicant's claims or specification what is meant by the recitation of a "fused state". In polymer chemistry the term fused can be used to refer to fusion of the polymer backbone or fusion between laminate layers. In paragraph [0049] of applicant's pre-grant application publication it is recited that "The push cutting of the thin thickness portion S may be done after cooled and hardened below a melting point of temperature of the resin constituting each layer of the multilayer structure 10, or may be done in the fused state of the resin." This recitation would seem to imply that applicant intends the limitation of a "fused state" to mean the resin is above the melting point temperature of the resin. However, this definition is not clearly stated and cannot be reliably inferred. For the purpose of examination, fused state will be interpreted to mean that the resin is cut at a temperature above its melting point temperature. However, an explanation of

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what is intended by the recitation "fused state" supported by specific recitations from the specification or evidence that the term "fused state" was generally understood in the art at the time the invention was made and correction are required.

7. Claim 2 is indefinite for being contradictory to claim 1. As stated above, it appears applicant intends fused state to mean that the polymer is at a temperature above its melting point temperature. Claim 2 recites that the "push-cutting step is performed after the resin material constituting the multilayer structure is cooled and hardened below a melting point thereof". This contradicts the recitation in claim 1 that the push-cutting is performed while the multilayer structure is in a fused state (i.e. above the melting point temperature). For the purpose of examination, claim 2 will be interpreted to encompass the limitation that the multilayer structure is cooled and hardened before undergoing a push-cutting step.

8. The term "normal temperature" in claim 4 is a relative term which renders the claim indefinite. The term "normal temperature" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Applicant's specification fails to provide a specific definition of the term normal temperature and conversely fails to provide any indication of what temperatures would *not* be considered normal. For the purpose of examination, the operating temperatures of any push cutter will be considered to meet the limitation of a "normal temperature" since these operating temperatures are the temperatures the push cutters normally operate at.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-7 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated Nagata et al. U.S. Patent No. 6,066,226 (hereafter referred to as by Nagata).

11. As to claim 1: Nagata teaches a method for manufacturing a sheet-shaped oxygen absorber comprising: the step of laminating an air-permeable covering member, which comprises a first heat-sealable resin layer at least on one surface, over one surface of an oxygen-absorbing resin sheet in which an oxygen-absorbing composition is dispersed in a thermoplastic resin in a manner such that the first heat-sealable resin layer directly contacts the oxygen-absorbing resin sheet; the step of laminating an air-permeable or air-permeation-resistant covering member, which comprises a second heat-sealable resin layer at least on one surface, over the other surface of the oxygen-absorbing resin sheet in a manner such that the second heat-sealable resin layer directly contacts the oxygen-absorbing resin sheet; and the step of cutting a multi-layer structural body into a desirable shape by an ultrasonic heat sealing and cutting method, the multi-layer structural body consisting of the air-permeable covering member, the oxygen-absorbing resin sheet, and the air-permeation-resistant covering member. (Col. 3, lines 12-31)

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12. As to claim 1: Since the sheet-shaped oxygen absorber of the present invention is cut into a desirable shape by the ultrasonic heat sealing and cutting method, the first and second heat-sealable resin layers are fused and sealed by heat at the cut portions, and the cut surfaces, that is, the periphery of the oxygen-absorbing resin sheet is covered. Therefore, not only the top and bottom surfaces of the oxygen-absorbing resin sheet, but also its periphery is not substantially exposed. Lack of substantial exposure of the periphery of the oxygen-absorbing resin sheet results in an oxygen absorber in which even if the periphery of the oxygen-absorbing resin sheet is not completely covered and a very small amount of residue of the oxygen-absorbing resin sheet remains, there are no problems in practical use such as leakage of the oxygen-absorbing composition from the periphery or mixing of the oxygen-absorbing composition to the preserved substance due to contact with the oxygen-absorbing resin sheet. (Col. 3, lines 32-49)

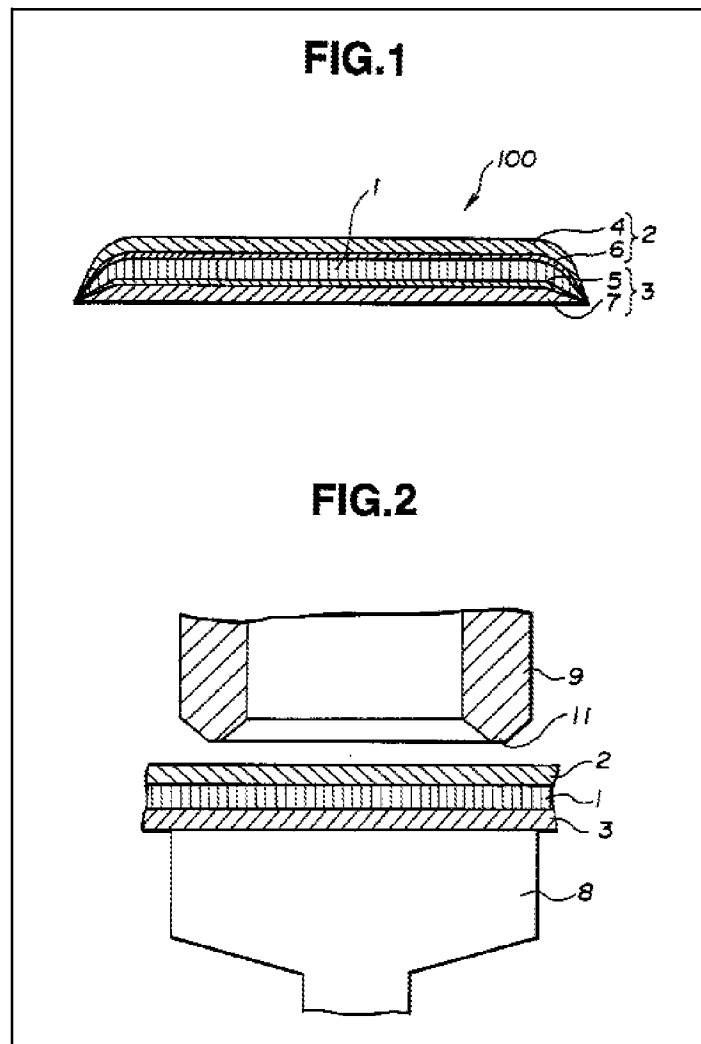
13. As to claims 2-4: Exposure of the periphery of the oxygen-absorbing resin sheet is substantially eliminated by utilizing the ultrasonic heat sealing and cutting method because of the following reasons: When the ultrasonic heat sealing and cutting method is performed, firstly the oxygen-absorbing resin sheet within the multi-layer structural body is heated, the thermoplastic resin then softens and simultaneously a cutting blade is pressed to the multi-layer structural body from outside, thereby the softened resin is moved away from the portions on which pressure is applied. Accordingly, at these pressure-applied portions, the first and second heat-sealable resin layers are fused and sealed by heat. Then the heat-sealed portions are cut by the cutting blade with

pressure. As a result of the heat sealing of the first and second heat-sealable resin layers at the periphery (heat sealed portions) of the oxygen-absorbing resin sheet, the periphery of the oxygen-absorbing resin sheet is covered with the heat-sealable resin, in other words, the periphery of the oxygen-absorbing resin sheet becomes such that it has no substantial exposure. (Col. 3, line 50-Col. 4, line 2)

14. In the sheet-shaped oxygen absorber of the present invention, it is

desirable that the thermoplastic resin softens faster than both the heat-sealable resin layers. It is also desirable that the softening points of the heat-sealable resin layers are higher than the softening point of the thermoplastic resin. By using heat-sealable resin having such characteristics, exposure of the periphery of the oxygen-absorbing resin sheet can be prevented with more certainty. (Col. 4, lines 3-10)

15. As to claims 10-12: Iron powder and iron chloride are recited to be useful oxygen absorbers. (Col. 4, lines 30-31) If the covering member comprising the second heat-sealable resin layer is resistant to air permeation, a gas-permeation-resistant plastic film





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which is made from heat-sealable resin is used, which may consist of either a single layer or multiple layers. This gas-permeation-resistant covering member may be a gas-permeation-resistant film formed by coating thermoplastic resin over the oxygen-absorbing resin sheet or may be a gas-permeation-resistant film which is adhered by a hot melt adhesive layer. (Col. 5, lines 20-29) Example 1 recites a laminate which corresponds to figure 1 comprising the following layers: air-permeable covering member (2), consisting of the first heat-sealable resin layer (6) and a porous film (4), an oxygen-absorbing resin sheet (1) an air-permeation-resistant covering member (3), consisting of the second heat-sealable resin layer (5) and an air-permeation-resistant film (7). (Col. 7, lines 23-35) The second heat sealable resin layer (5) is recited to be ethylene-vinyl acetate copolymer in this example. (Col. 8, lines 6-8)

16. As to claims 5 and 6: As shown in Fig. 2 the ultrasonic heat sealing and cutting device is constructed in a manner such that it comprises: an ultrasonic vibration horn (8) on which the multi-layer structural body is set, and which generates an ultrasonic wave from below the multi-structural body in an upward direction; and a jig (9) which is placed opposite to and above the ultrasonic vibration horn (8) and which is movable up and down. The jig (9) has a hollow cylindrical shape, and the tip portion of the jig (9) opposite the ultrasonic vibration horn (8) is formed in a blade shape (11) (blade angle: 120 degrees). This ultrasonic heat sealing and cutting device is designed to hold the sheet-shaped oxygen absorber, which is placed on the ultrasonic vibration horn (8), between the ultrasonic vibration horn (8) and the jig (9), thereby allowing the heat sealing and cutting of the multi-layer structural body. (Col. 8, lines 26-47)

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17. As to claims 10 and 12: Second heat sealable layer (5) is recited by Nagata to be comprised of ethylene-vinyl acetate copolymer which is the same as the ethylene vinyl acetate copolymer "gas shut-off layer" material recited in applicant's specification in paragraph [0072] of the pre-grant application publication. Therefore, the intermediate second heat sealable layer comprising ethylene-vinyl acetate copolymer is interpreted to meet the limitation in claims 10 and 12 of an intermediate "gas shut-off layer".

18. Nagata anticipates the method of cutting a multilayer structure comprising intermediate iron chloride oxygen absorbing and permeation resistant (gas shut-off) resin layers comprising the steps of push cutting the resin layers while they are heated such that the top resin layer bites into the bottom resin layer supported by a cutter receiving portion recited in claims 1-4, 7 and 10-12.

19. Nagata recites that the cutter portion is cylindrical with a blade angle of 120° which meets applicant's limitation that the push cutter have an angled edge and be belt-shaped with both ends connected together endlessly as claimed in claims 5 and 6.

### ***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al. U.S. Patent No. 6,066,226 (hereafter referred to as by Nagata).

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22. Nagata teaches what has been recited above but is silent regarding using the method disclosed for forming cups or trays or pouches.

23. Nagata additionally discloses that it is well known in the art to fabricate oxygen absorbers in the form of small bag shaped oxygen absorbers. (Col. 1, lines 21-24) The sheet-shaped oxygen absorbers recited by Nagata are also disclosed to be produced freely in various shapes. (Col. 10, lines 41-43)

24. Since Nagata discloses it was known to fabricate bag (i.e. pouch) shaped oxygen absorbers and since the method of cutting the laminate recited is disclosed to be useful for various shapes it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the method and laminate disclosed to fabricate a small bag shaped (i.e. pouch) oxygen absorber. This would have been the same as the invention claimed in claim 9.

25. It is well known in the packaging and polymer arts to produce containers from laminates. One of ordinary skill who desired a container with oxygen absorbing capabilities would have been motivated to utilize the method and laminate disclosed by Nagata to mold a container because of the oxygen absorbing capabilities of the laminate and to harness the benefit of preventing the oxygen absorbing iron compound from contaminating anything contained in the container provided by the method of Nagata since the oxygen absorbing layer is specifically recited to be sealed in by the press cutting method. The obvious use of the method recited by Nagata to press cut a container from the laminate recited would have produced the invention claimed in claim 8.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHELE JACOBSON whose telephone number is (571)272-8905. The examiner can normally be reached on Monday-Thursday 8:30 AM-7 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/  
Supervisory Patent Examiner, Art Unit 1794

Michele L. Jacobson  
Examiner /M. J./  
Art Unit 1794